

# Resective surgery in temporal lobe epilepsy



**Seung-Chyul Hong, MD, PhD**

Department of Neurosurgery, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea

---

Temporal lobe epilepsy (TLE) can be classified according to area of seizure onset from intracranial EEG into mesial TLE (MTLE), lateral TLE (LTLE), and combined mesiolateral TLE (MLTLE). Presurgical definition of each identity is essential for the success of TLE surgery. Clinical features (history and typical limbic type complex partial seizures), typical scalp EEG finding, hippocampal atrophy on MRI, hypometabolism on PET and concordant Wada test result favoring for MTLE are gold standard for best candidate of surgical treatment (amygdalohippocampectomy procedures) without invasive procedures. If any one of above items is discordant, however, intracranial procedures must be taken into consideration. More confounding situation is that MLTLE is now defined if there is independent mesial and lateral seizure onset zones by intracranial recording procedures, or if the EEG data do not allow precise differentiation between mesial and lateral onset. Identification of MLTLE from whole TLE cases became very important for the success of surgical treatment. Clear definition of MLTLE from MTLE or LTLE requires intracranial recording procedures. For accurate definition of seizure onset from mesial structures, depth electrodes placed into amygdala and hippocampus are necessary as well as subdural electrodes at lateral and basal surfaces of temporal lobe. We have been using this combined depth and subdural electrodes protocol for TLE cases for the accurate differentiation of each identity. The indications, method of surgical procedures, and outcome are to be presented.

---

**Key Words:** Temporal lobe epilepsy, Intracranial electrodes, Temporal lobectomy, Outcome